Role of the Division

• **Track Safety Standards (Part 213)**
  • Provide guidance to regional staff and railroads in interpretation, application and enforcement.

• **Railroad Workplace Safety (Part 214)**
  • Roadway Worker Protection and Roadway Maintenance Machine programs. Provide guidance to regional staff and railroads in interpretation, application and enforcement.

• **Automated Track Inspection Program (ATIP)**
  • Develop schedules, provides technical support & oversight. Disseminate ATIP Critical track exceptions to Railroads & Regions.
Division Overview

• Positions (5)
  – Staff Director  Ken Rusk  (202) 493-6236
  – Arthur Clouse  Track Safety Specialist (202) 493-6252
  – James Payne  Track Safety Specialist (202) 493-6005
  – Joe E. Riley  Track Safety Specialist (202) 493-6357
  – Yu-Jiang Zhang  Civil Engineer  (202) 493-6460

• Vacancies
  – One Civil Engineer
• **Areas of Responsibilities**
  
  – Part 213 Track Safety Standards
    • Low Speed - Arthur Clouse
    • High Speed – Yu-Jiang Zhang
  
  – Part 214 Railroad Workplace Safety
    • RWP, RMM, General – Joe Riley
  
  – ATIP
    • Operations/Scheduling – James Payne
    • Data Management – Yu-Jiang Zhang
    • Application – Arthur Clouse
  
  – Other (Supportive Rules)
    • RSAC safety regulatory initiatives, HSR program, RPD
• **RWP Adjacent Track**
  – Final Rule, November 30, 2011 (Received Petitions to Reconsider) Comments received
  – Final Rule, January 10, 2014
    • Effective date July 1, 2014

• **RWP General Rule**
  – NPRM published August 20, 2012, Comments received

• **Vehicle/Track Interaction Safety Standards**
  – High Speed and High Cant Deficiency Operations
  – Final Rule published March 13, 2013
  – Effective date July 11, 2013
High Speed Research Car
DOTX216 (T-16)

Track Inspection Car (ATIP)
DOTX217 (T-17)

Gage Restraint Inspection Car
DOTX218 (T-18)

Track Inspection Car (ATIP)
DOTX219 (T-19)

Only 125 mph operation (NEC)

Track Geometry, Ride Quality, Rail Cant, Self propelled capability

Only Car with GRMS, Testing speed limited to 50 mph, Rail Cant, Track Geometry, 3D Right-of-Way Scanner, Self propelled capability

Track Geometry, Ride Quality, Rail Cant, Self propelled capability

Track Inspection Car (ATIP)
DOTX220 (T-20)

Autonomous Track Inspection Car (ATIP)
DOTX221 (T-21)

ATIP Support Vehicle
DOTX223 (T-23)

University Support R4

Track Geometry, Ride Quality, Rail Cant, Towed

Ride Quality, Track Geometry, Towed

Storage, Axle count car

Research Car
• Capable of testing at 125 MPH
• Samples at 12 inch intervals
• Track Geometry Measurement System captures track gauge, alignment, track surface (crosslevel, warp, profile), and maximum train speeds in curves
• Transverse Rail Profile System captures profile, rail wear and rail cant in real time
• Ride Quality Measurement System (RQMS)
• Differential Global Positioning System to help locate track features
• Compliance survey operations now provide supplemental exception data for next higher track class simultaneously, promoting preventive maintenance alongside remedial action
• Real-time email exception distribution system permits operation without regional track inspector onboard
• Modes of Operation
  – Compliance Survey Mode
    • This is the normal survey mode.
  – Amtrak Assessment Mode
    • This is a special test mode when the ATIP fleet covers a large portion of the main Amtrak routes around the country.
  – iTrack (Optional)
    • This is a new operation using technologies that allow the regions to not staff the cars and still maintain their connection to the railroad.
  – Remote Track Geometry System (RTGMS)
    • This is a hybrid of the Autonomous and Man system. The data is streamed off the car and the Data Analysis is in an office editing the data as if they were in the field.
• RTGMS was installed on DOTX221 in August 2011 under a joint effort with ORD

• System requires no operators onboard

• DOTX221 has tested approximately 40,000 miles during the Amtrak Assessment with DOTX220 and unmanned shakedown runs

• Remote Operator Desk is being currently developed by ORD

• The desk will be connected to TDMS and will allow ATIP operator to review and edit exceptions via a web interface

• Operational limitations
  - No temporary slow orders
  - No general orders
  - No rail profile (CANT)
  - Currently restricted to Amtrak routes
Total Track Caused Derailments
Main Route vs Other than Main

- **Main Route**
  - FY12: 191
  - FY13: 195
  - FY12 Cost: $88.9
  - FY13 Cost: $89.1

- **Other than Main**
  - FY12: 438
  - FY13: 354
  - FY12 Cost: $23.3
  - FY13 Cost: $22.9
Track Caused Derailments
Location and Cost ($m)

- Main Track: FY12 = 175, FY13 = 170
- Sidings: FY12 = 16, FY13 = 25
- Yard Track: FY12 = 331, FY13 = 263
- Industrial: FY12 = 107, FY13 = 91

Federal Railroad Administration
Track Caused Derailments
Major Cause Groups and Cost ($m)
Track Caused Derailments
FY13 Location Percentage

FY13 %

- Main Track: 31%
- Yard Track: 48%
- Industrial: 17%
- Sidings: 5%
Track Caused Derailments
Yard Track Cause Groups and Cost

FY12
FY13
FY12 Cost
FY13 Cost

Roadbed
Rail
Geometry
Turnout
Other
Questions?